

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-7. (Canceled)

8. (Currently amended) An isolated ~~hSMMMyHC~~ human smooth muscle myosin heavy chain polypeptide, wherein the ~~protein~~ polypeptide
(a) comprises an amino acid sequence that has greater than 90% 95%
amino acid sequence identity to SEQ ID NO:2, or comprises the amino acid sequence of ~~SEQ ID~~
~~NO:4; SEQ ID NO:6; SEQ ID NO:8; SEQ ID NO:10; SEQ ID NO:12; or SEQ ID NO:14; and as~~
~~measured using a sequence comparison algorithm~~

(b) has ATPase activity or actin binding activity.

9. (Currently amended) ~~An~~ The isolated ~~protein~~ polypeptide of claim 8,
wherein the ~~protein~~ polypeptide specifically binds to polyclonal antibodies generated against a
protein comprising SEQ ID NO:2; ~~SEQ ID NO:4; SEQ ID NO:6; SEQ ID NO:8; SEQ ID~~
NO:10; SEQ ID NO:12; or SEQ ID NO:14.

10. (Currently amended) ~~An~~ The isolated ~~protein~~ polypeptide of claim 8,
wherein the ~~protein~~ polypeptide is SEQ ID NO:2; ~~SEQ ID NO:4; SEQ ID NO:6; SEQ ID NO:8;~~
SEQ ID NO:10; SEQ ID NO:12; or SEQ ID NO:14.

11. (Withdrawn) A method for screening for modulators of an hSMMMyHC
polypeptide, the method comprising the steps of:

(i) providing biologically active hSMMMyHC polypeptide, wherein has the
following properties: (i) activity including ATPase function or the ability to bind actin; and (ii)
sequence that has greater than 90% amino acid sequence identity to SEQ ID NO:2; SEQ ID
NO:4; SEQ ID NO:6; SEQ ID NO:8; SEQ ID NO:10; SEQ ID NO:12; or SEQ ID NO:14 as
measured using a sequence comparison algorithm;

(ii) contacting biologically active hSMMMyHC polypeptide with a candidate agent in a test and control concentration; and

(iii) assaying for the level of hSMMMyHC polypeptide activity, wherein the hSMMMyHC polypeptide activity is selected from the group consisting of actin binding activity or ATPase activity, and wherein a change in activity between the test and control concentration indicates a modulator.

12. (Withdrawn) A method of claim 11, wherein the screening occurs in a multi-well plate as part of a high-throughput screen.

13. (Withdrawn) A method of claim 12, wherein the biologically active hSMMMyHC polypeptide comprises an amino acid sequence of SEQ ID NO:2; SEQ ID NO:4; SEQ ID NO:6; SEQ ID NO:8; SEQ ID NO:10; SEQ ID NO:12; or SEQ ID NO:14.

14-15. (Canceled)